

## IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): ~~Pyrogenic~~ A pyrogenic silicon dioxide powder with

- a BET surface area of 30 to 90 m<sup>2</sup>/g,
- a DBP index of 80 or less
- a mean aggregate area of less than 25000 nm<sup>2</sup>,
- a mean aggregate circumference of less than 1000 nm,

wherein at least 70% of the aggregates have a circumference of less than 1300 nm.

Claim 2 (Currently Amended): ~~Silicon~~ The pyrogenic silicon dioxide powder according to Claim 1, ~~characterised in that~~ wherein the BET surface area is between 35 and 75 m<sup>2</sup>/g.

Claim 3 (Currently Amended): ~~Silicon~~ The pyrogenic silicon dioxide powder according to ~~Claims 1 or 2, characterised in that~~ Claim 1, wherein the DBP index is between 60 and 80.

Claim 4 (Currently Amended): ~~Silicon~~ The pyrogenic silicon dioxide powder according to ~~Claims 1 to 3, characterised in that~~ Claim 1, wherein the BET surface area is between 40 and 60 m<sup>2</sup>/g and the DBP index is 60 to 80.

Claim 5 (Currently Amended): ~~Silicon~~ The pyrogenic silicon dioxide powder according to ~~Claims 1 to 4, characterised in that~~ Claim 1, wherein the pyrogenic silicon dioxide powder ~~according to the invention~~ has a mean aggregate area of at most 20000 nm<sup>2</sup>.

Claim 6 (Currently Amended): ~~Silicon~~ The pyrogenic silicon dioxide powder according to ~~Claims 1 to 5, characterised in that~~ Claim 1, wherein the BET surface area is 40 to 60 m<sup>2</sup>/g, the DBP index is 60 to 80 and the mean aggregate area is between 15000 and 20000 nm<sup>2</sup>.

Claim 7 (Currently Amended): ~~Silicon~~ The pyrogenic silicon dioxide powder according to ~~Claims 1 to 6, characterised in that it~~ Claim 1, wherein the pyrogenic silicon dioxide powder has a mean aggregate circumference of less than 1000 nm.

Claim 8 (Currently Amended): ~~Silicon~~ The pyrogenic silicon dioxide powder according to ~~Claims 1 to 7, characterised in that~~ Claim 1, wherein the BET surface area is 40 to 60 m<sup>2</sup>/g, the DBP index is 60 to 80, the mean aggregate area is 1500 to 20000 nm<sup>2</sup> and the mean aggregate circumference is 600 to 1000 nm.

Claim 9 (Currently Amended): ~~Silicon~~ The pyrogenic silicon dioxide powder according to ~~Claims 1 to 8, characterised in that~~ Claim 1, wherein the degree of filling of the powder in an aqueous dispersion is up to 90 wt.%.

Claim 10 (Currently Amended): ~~Silicon~~ The pyrogenic silicon dioxide powder according to ~~Claims 1 to 9, characterised in that it~~ Claim 1, wherein the pyrogenic silicon dioxide powder has a viscosity of less than 100 mPas, with respect to a 30 wt.% aqueous dispersion, at a rate of shear of 5 rpm.

Claim 11 (Currently Amended): ~~Silicon~~ The pyrogenic silicon dioxide powder according to ~~Claims 1 to 10, characterised in that it~~ Claim 1, wherein the pyrogenic silicon

dioxide powder has a pH, measured in a 4 % strength aqueous dispersion, of between 3.8 and 5.

Claim 12 (Currently Amended): A process for preparing the pyrogenic silicon dioxide powder according to ~~the invention in accordance with Claims 1 to 11, characterised in that~~ Claim 1, wherein at least one silicon compound in vapour form, a free-oxygen-containing gas and a combustible gas are mixed in a burner of known construction, this gas mixture is ignited at the mouth of the burner and burnt in the flame tube of the burner, the solid obtained is separated from the gas mixture and optionally purified, wherein

- the oxygen content of the free-oxygen-containing gas is adjusted so that the lambda value is greater than or equal to 1,
- the gamma value is between 1.2 and 1.8,
- the throughput is between 0.1 and 0.3 kg SiO<sub>2</sub>/m<sup>3</sup> of core gas mixture,
- the mean, normalised rate of flow of gas in the flame tube at the level of the mouth of the burner is at least 5 m/s.

Claim 13 (Currently Amended): ~~[[A]]~~ The process according to Claim 12, ~~characterised in that~~ wherein the oxygen content of the free-oxygen-containing gas is not more than 40 vol.%.

Claim 14 (Currently Amended): ~~[[A]]~~ The process according to Claim 12 ~~or 13,~~ ~~characterised in that~~ wherein,  $1 < \lambda \leq 1.2$ .

Claim 15 (Currently Amended): ~~[[A]]~~ The process according to ~~Claims 12 to 14,~~ ~~characterised in that~~ Claim 12, wherein  $1.6 < \gamma \leq 1.8$ .

Claim 16 (Currently Amended): ~~[[A]] The process according to Claims 12 to 15,~~  
~~characterised in that~~ Claim 12, wherein the mean normalised rate of flow of gas in the flame  
tube at the level of the mouth of the burner is more than 8 m/s.

Claim 17 (Currently Amended): ~~[[A]] The process according to Claims 12 to 16,~~  
~~characterised in that~~ Claim 12, wherein the mean rate of discharge of the gas mixture at the  
mouth of the burner is at least 30 m/s.

Claim 18 (Currently Amended): ~~[[A]] The process according to Claims 12 to 17,~~  
~~characterised in that~~ Claim 12, wherein additional air (secondary air) is introduced into the  
flame tube.

Claim 19 (Currently Amended): ~~[[A]] The process according to Claims 12 to 18,~~  
~~characterised in that~~ Claim 12, wherein silicon tetrachloride and/or at least one organosilicon  
compound is used as a silicon compound.

Claim 20 (Currently Amended): ~~[[A]] The process according to Claims 12 to 19,~~  
~~characterised in that~~ Claim 12, wherein

- silicon tetrachloride is used,
- $1 < \lambda \leq 1.2$ ,
- $1.6 < \gamma < 1.8$ ,
- the throughput is between 0.1 and 0.3 kg SiO<sub>2</sub>/m<sup>3</sup> of core gas mixture,
- in addition at least double the amount of air, with respect to the amount of free-  
oxygen-containing gas introduced into the burner, is introduced into the flame tube and

- the rate of flow of feedstocks at the mouth of the burner is 40 to 65 m/s
- and the mean normalised rate of flow of gas in the flame tube at the level of the mouth of the burner is between 8 and 12 m/s.

Claim 21 (Currently Amended): An aqueous dispersion ~~containing~~ comprising the pyrogenic silicon dioxide powder ~~in accordance with Claims 1 to 11~~ as claimed in Claim 1.

Claim 22 (Currently Amended): ~~An~~ The aqueous dispersion according to Claim 21, ~~characterised in that~~ wherein the concentration of the pyrogenic silicon dioxide powder is between 20 and 80, ~~preferably between 40 and 60 wt.%.~~

Claim 23 (Currently Amended): ~~An~~ The aqueous dispersion according to ~~Claims 21 or 22,~~ Claim 21, ~~characterised in that~~ wherein the viscosity of a 50 wt.% dispersion is less than 2500 mPas at a rate of shear of 50 rpm.

Claim 24 (Currently Amended): ~~An~~ The aqueous dispersion according to ~~Claims 21 to 23,~~ Claim 21, ~~characterised in that~~ wherein the mean particle size of the silicon dioxide powder is less than 200 nm.

Claim 25 (Currently Amended): ~~An~~ The aqueous dispersion according to ~~Claims 21 to 24,~~ Claim 21, ~~characterised in that~~ wherein the dispersion is stabilised by adding bases or cationic polymers or ~~aluminium~~ aluminum salts or a mixture of cationic polymers and ~~aluminium~~ aluminum salts or acids.

Claim 26 (Currently Amended): ~~An~~ The aqueous dispersion according to ~~Claims 21 to 25, characterised in that it~~ Claim 21, wherein the aqueous dispersion contains additives.

Claim 27 (Currently Amended): A process for preparing the aqueous dispersion in accordance with ~~Claims 21 to 26, characterised in that~~ Claim 21, wherein the pyrogenic silicon dioxide powder ~~in accordance with Claims 1 to 4~~ is incorporated, using a dispersion device, into water which can be stabilised by adding bases or cationic polymers or ~~aluminium~~ aluminum salts or a mixture of cationic polymers and ~~aluminium~~ aluminum salts or acids and is then further dispersed for a period of 5 to 30 minutes.

Claim 28 (Currently Amended): ~~A~~ The process according to Claim 27, ~~characterised in that~~ wherein a rotor-stator system is used as a dispersing system.

Claims 29-30 (Canceled).

Claim 31 (New): The aqueous dispersion according to Claim 21 wherein the concentration of the pyrogenic silicon dioxide powder is between 40 and 60 wt%.

Claim 32 (New): A rubber article, a silicon rubber article or a plastic article comprising the pyrogenic silicon dioxide powder as claimed in Claim 1.

Claim 33 (New): A method for producing a rubber article, a silicon rubber article or a plastic article comprising adding the pyrogenic silicon dioxide powder as claimed in Claim 1 to a rubber formulation, a silicon rubber formulation or a plastic formulation.

Claim 34 (New): A method for adjusting the rheology of a dye or a lacquer comprising adding the pyrogenic silicon dioxide powder as claimed in Claim 1 to a dye formulation or a lacquer formulation.

Claim 35 (New): A dye or a lacquer comprising the pyrogenic silicon dioxide powder as claimed in Claim 1.

Claim 36 (New): A catalyst support comprising the pyrogenic silicon dioxide powder as claimed in Claim 1.

Claim 37 (New): A method for preparing a catalyst comprising supporting a catalytically active material onto the pyrogenic silicon dioxide powder as claimed in Claim 1.

Claim 38 (New): A glass article comprising the pyrogenic silicon dioxide powder as claimed in Claim 1.

Claim 39 (New): A method for preparing a glass article comprising adding the pyrogenic silicon dioxide powder as claimed in Claim 1 to a glass formulation.

Claim 40 (New): A chemical-mechanical polish comprising the pyrogenic silicon dioxide powder as claimed in Claim 1.

Claim 41 (New): A method for polishing comprising utilizing the chemical-mechanical polish as claimed in Claim 40 as a polish.

Claim 42 (New): A coating for ink-jet paper comprising the pyrogenic silicon dioxide powder as claimed in Claim 1.

Claim 43 (New): A method for preparing ink-jet paper comprising coating paper with the coating for ink-jet paper as claimed in Claim 42.